WHAT IS CLAIMED IS:

A method for object recognition on an image pixel plane of received images (1), said method comprising the following steps:

(a) roughly classifying (10) pixel points of said received images whether or not a pixel point is relevant for said object recognition to provide relevant pixel points and eliminate irrelevant pixel points;

(b) forming a reduced image (11) based on said relevant pixel points as roughly classified in step (a);

(c) filtering (20) each reduced image (11) for forming at least two corresponding decomposed or filtered images (21, 22, 23) whereby image components relevant for said object recognition are retained in said filtered images;

(d) further classifying (30) said filtered images for providing classified images, wherein said further classifying is performed by a group or ensemble of different classifiers which operate in accordance with learned rules to allocate said classified images to different object classes, wherein each of said classifiers operates based on a characterizing vector forming an input information for its respective classifier;

(e) merging or fusing (40) said classified images in accordance with an algorithm to form a combined global evaluation or decision for each class of said object classes, said global

evaluation or decision representing merged images (41A, 41B, 41C); and

(f) deciding (50), on the basis of said merged images, whether a pixel point is relevant and if so to which of said object classes each relevant pixel point belongs.

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The method of claim 1, further comprising providing a set of predetermined first criteria for performing said rough classifying step (a), and providing a second set of second predetermined criteria for performing said filtering step (c).

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The method of claim 1, further comprising acquiring vicinity image data representing a vicinity of a respective relevant pixel point of a corresponding filtered image, and forming said characterizing vector from said vicinity image data.

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The method of claim 1, further comprising providing different weighting factors or evaluation numbers representing different classes of objects to be recognized, and assigning or allocating certain weighting factors or evaluation numbers of said different weighting factors to each relevant pixel point thereby marking

each relevant pixel point with regard to which of said different classes of objects the marked pixel point belongs.

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The method of claim 3, wherein said step of acquiring said vicinity image data comprises sorting said vicinity image data in a spiral pattern into a vector of coefficients, applying a rapid Fourier transformation to said vector of coefficients to form transformation coefficients and forming said characterizing vectors of an absolute value of said transformation coefficients.

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The method of claim 1, further comprising using, as said group of different classifiers, a neural network capable of learning for performing said step of further classifying (30).

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The method of claim 6, further comprising selecting from relevant pixel points of said filtered images (21, 22, 23) characterizing or feature vectors representing features of said relevant pixel points of said rough classifying (10), and forming rules for said neural network from said characterizing or feature vectors.

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The method of claim 1, further comprising performing said merging step in accordance with a statistical process for obtaining said global evaluation, and further comprising using in said statistical process information based at least on one of a type, position and content of said received images (1) to be evaluated.

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The method of claim 1, further comprising representing recognized objects by pixel clusters in an image (51) that represents a decision regarding said combined global evaluation while performing said deciding step (50).

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